# Causes for Gasoline & Diesel Price Increases in California

## SEPTEMBER MONTHLY UPDATE

California Energy Commission

September 2, 2003

# CAUSES FOR GASOLINE AND DIESEL PRICE INCREASES IN CALIFORNIA

**Summary**

On March 13, 2003, Governor Davis asked the California Energy Commission (Energy Commission) to investigate the causes for the rapid rise in gasoline and diesel prices in February and March. Since submitting its March 28 report, the Energy Commission has provided monthly updates at the request of the Governor. This report presents the Energy Commission's September 2003 update.

In August, several West Coast refineries experienced significant outages while the failure of a pipeline that delivers gasoline to Phoenix from Tucson also diverted gasoline supply from Southern California into Arizona. Because of these problems, refinery stocks of gasoline in California declined substantially during the month.

As a result of these factors, gasoline prices increased sharply during August. Wholesale regular gasoline prices on the spot market spiked to $1.67 per gallon on August 20, but reports that gasoline was again flowing through the Phoenix pipeline caused spot prices in California to plummet to $1.16 by August 26. This decline in wholesale prices did not immediately affect retail prices. As of August 25, the average retail regular gasoline price was $2.10 per gallon, up 23 percent from $1.71 on July 28.

Although increasing less than gasoline prices, diesel prices also rose during August because of inventory reductions and some lost production. Average retail diesel prices in California increased from $1.67 per gallon on July 28 to $1.75 on August 25.

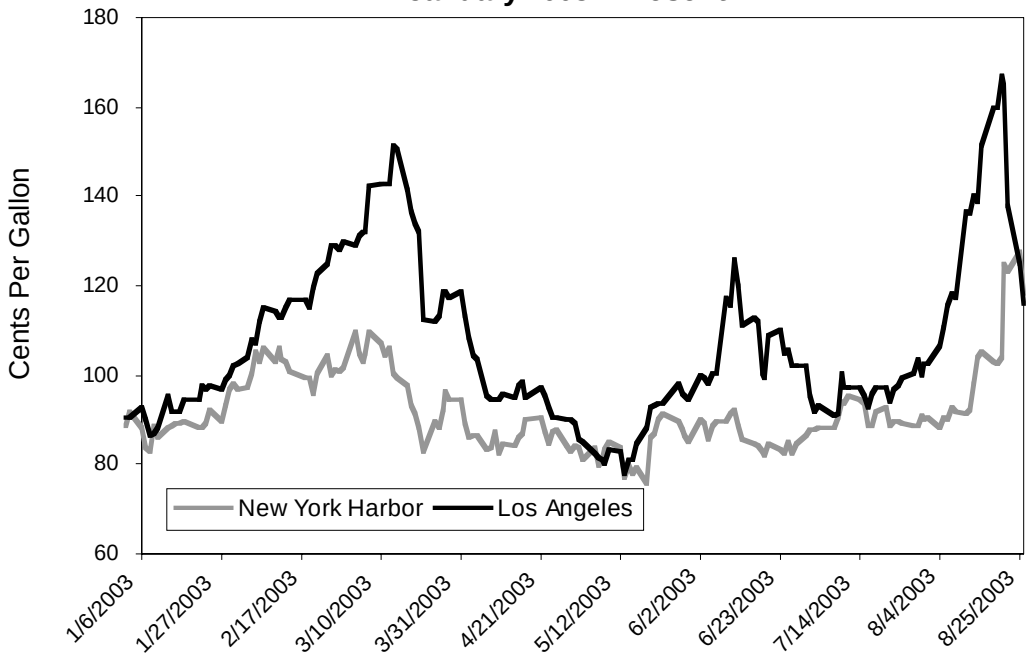
World crude oil prices, an important factor influencing gasoline and diesel prices, have remained relatively high because of low U.S. crude oil inventories, ongoing problems with the resumption of Iraqi oil exports, and unrest in Nigerian oil producing regions. As of August 29, the price of Alaska crude oil delivered to California was $30.21 per barrel, compared to $28.99 on July 31.

**Recent California Gasoline Price Increases**

As shown in Figure 1, wholesale gasoline prices in California spiked to record levels during August 2003 because of refinery and pipeline problems[1]. Several West Coast refineries experienced outages, but only one was for scheduled maintenance. In addition, a pipeline that delivers gasoline to Phoenix from Texas ruptured between Tucson and Phoenix and was taken down for repairs. Pipeline shipments from Southern California were increased to make up most of the shortfall. When the refinery and pipeline problems are combined, about 12 percent of daily statewide gasoline production was lost or diverted. As a result, inventories of California reformulated gasoline and blending components declined sharply in August. Significant refinery outages from the electricity blackout on August 14 in the Northeast U.S. and Canada also contributed to nationwide price increases in futures and spot markets that exacerbated the price increases in California.

Lost gasoline production, diversion of gasoline into the Phoenix area, and resulting reductions of inventories caused wholesale gasoline prices to increase sharply in California. Regular-grade wholesale gasoline prices on the Los Angeles spot market spiked to $1.67 per gallon on August 20. After the Phoenix pipeline was reported back on-line, spot gasoline prices plummeted in Los Angeles to $1.16 on August 26 and briefly dipped below spot prices in New York.

**Figure 1**
**Wholesale Gasoline Prices - Los Angeles vs. New York**
**January 2003 - Present**



California reformulated gasoline production did not differ appreciably in August than June or July, because refinery problems also plagued those earlier months (see Figure 2). However, with the diversions of supply into Phoenix and high seasonal gasoline demand, California refinery inventories of gasoline were drawn down much more heavily during August[2].

**Figure 2**
**California Reformulated Gasoline Production**
**January 3, 2003 through August 22, 2003**

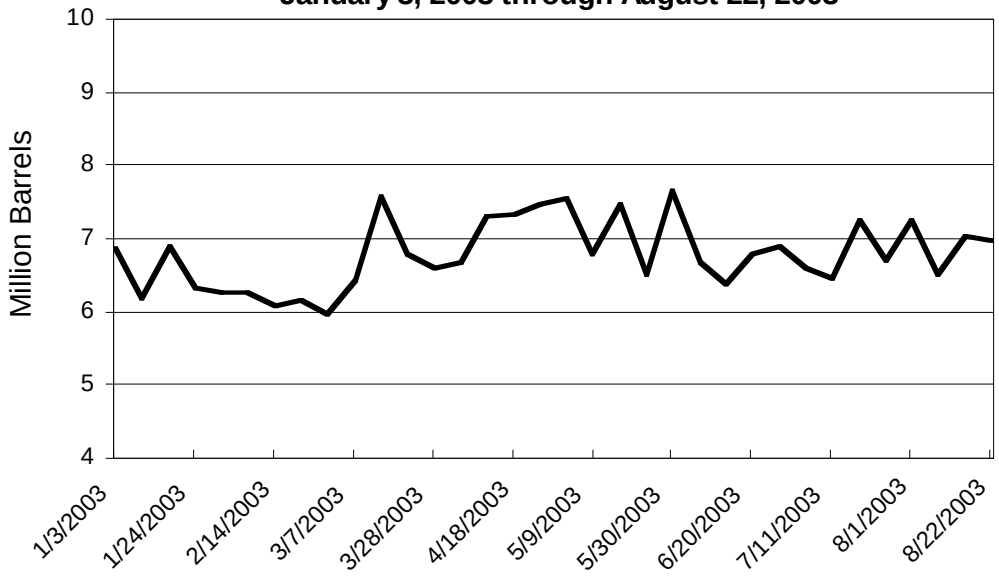



Figure 3 shows stock levels for California refineries of combined reformulated gasoline and blendstock inventories, which fell below 10 million barrels in August for the first time since September 2000. The decline of nearly 3 million barrels between July 25 and August 15 was the largest three week decline since the introduction of reformulated gasoline in 1996. Similarly, total gasoline and blendstock inventories for refineries and terminals in the Petroleum Administration for Defense District 5 (PADD 5) region also declined to 27.2 million barrels as of August 22, their lowest levels since November 2002.

**Figure 3**
**California Gasoline & Blendstock Inventories**
**January 3, 2003 through August 22, 2003**

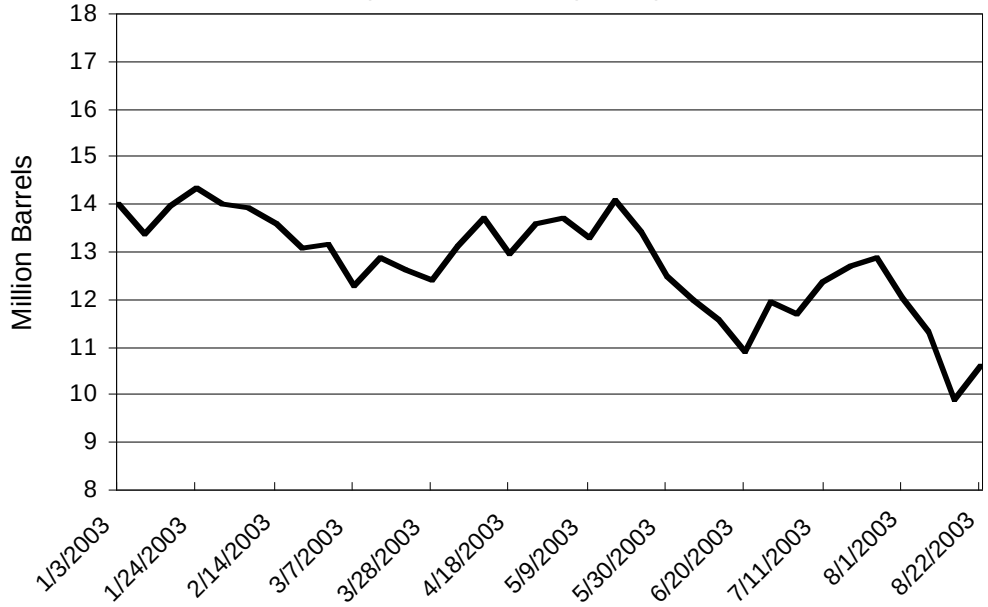
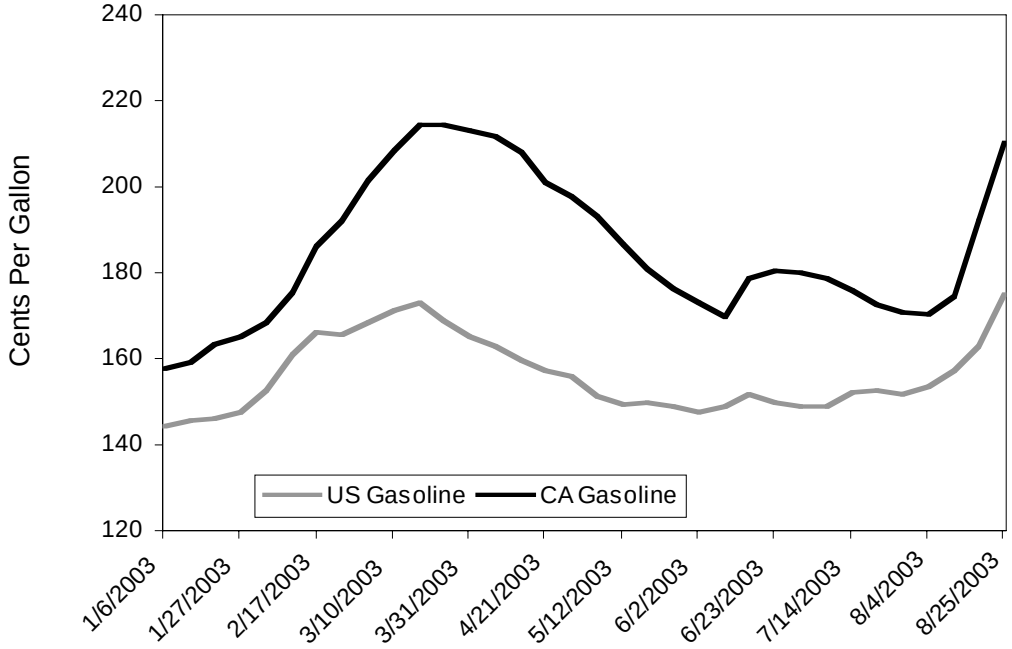



Figure 4 compares regular-grade retail gasoline prices in California with U.S. average gasoline prices through August 25, 2003. On August 18, retail gasoline prices in California rose to $1.92 per gallon, a 17.7 cent increase over the previous week. Retail prices rose sharply again on August 25, to $2.10 per gallon, an additional 18 cent increase. This increase was the largest since March 29, 1999, and although gasoline prices also rose nationwide, the difference between California and U.S. retail gasoline prices grew substantially during August because of the loss and diversion of supply noted above.

**Figure 4**
**Retail Gasoline Prices - California vs. U.S. All Formulations**
**January 2003 - Present**




Several measures have been undertaken to remedy the refinery and pipeline problems contributing to California's price increases. In particular, the Arizona pipeline outage has been partially overcome after Kinder Morgan Pipelines (KMP), the pipeline owner, was able to bypass the damaged section of pipeline by diverting flow into a smaller parallel pipeline. While the pipeline is still not operating at its original capacity, the bypass line has eliminated the need to truck gasoline to Phoenix from Tucson. In addition, Arizona received a temporary waiver from the U.S. Environmental Protection Agency allowing the sale of conventional gasoline in the Phoenix area.

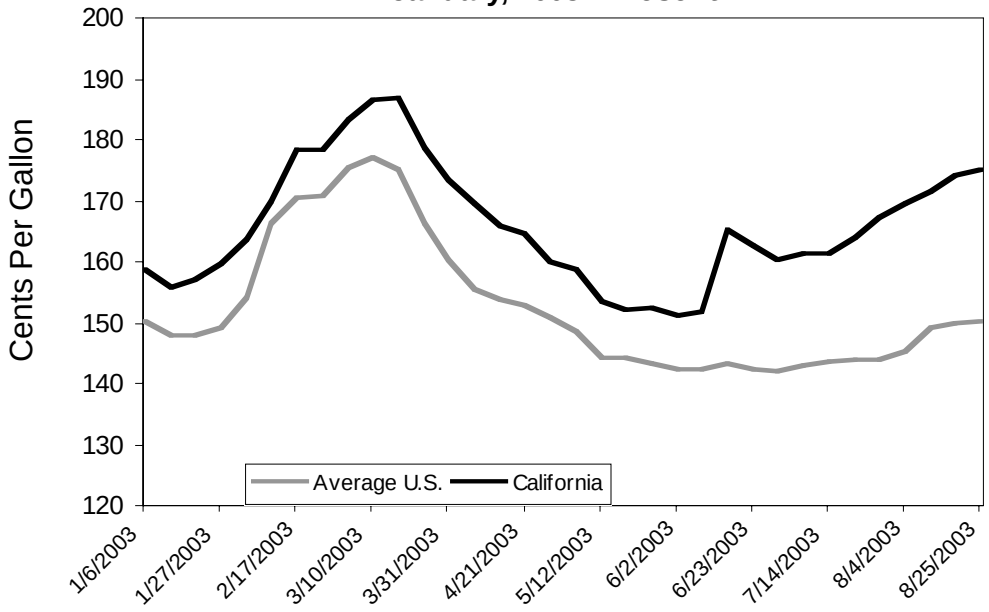
Because of these measures, shortages at Phoenix retail outlets and long lines for customers there had largely ended by August 25. The spot market in California responded quickly to these developments, with Los Angeles wholesale prices falling 49 cents per gallon between August 21 and August 26.

KMP has announced plans to replace the out-of-service 8 inch pipeline with new 12 inch pipe. The company intends to replace almost a mile of the damaged pipeline during September, thereby returning to its original capacity. In later phases, KMP plans to replace another 11 miles of pipeline.

**Recent California Diesel Fuel Price Increases**

Figure 5 compares retail diesel prices in California with the U.S. average price through August 25, 2003. California retail diesel prices have continued to increase in August from levels in July, with prices at $1.75 per gallon on August 25, compared to $1.67 on July 28.

**Figure 5**
**Retail Diesel Prices - California vs. U.S.**
**January, 2003 - Present**



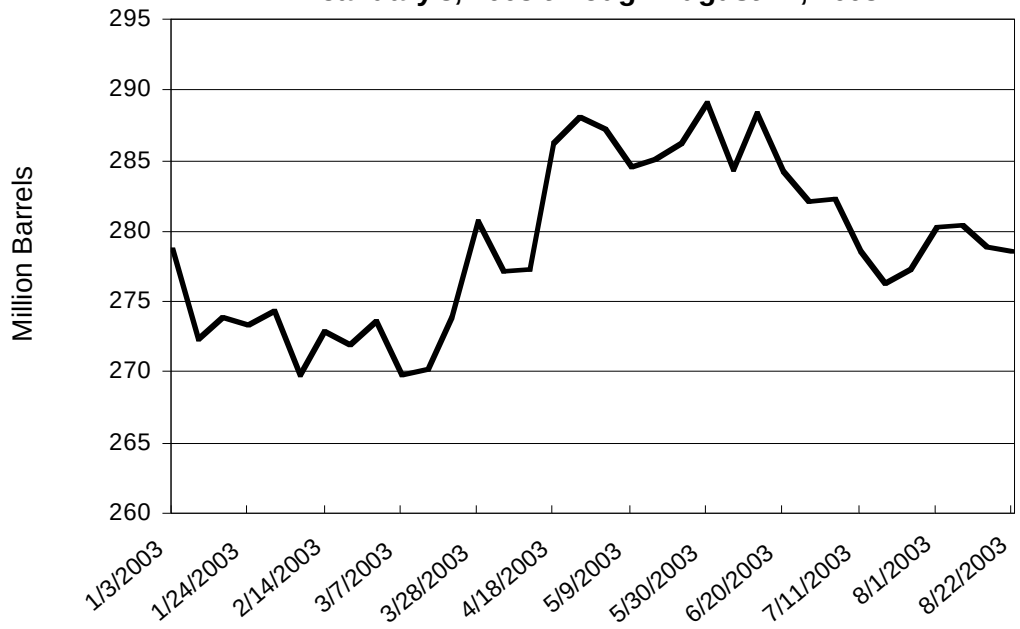

Inventories of low sulfur diesel in the PADD 5 region are rebuilding slowly after reaching their lowest levels in almost five years during July. Similarly, during the last week of July, California refinery stocks of California Air Resources Board (CARB) diesel had reached their lowest levels since December 1999. Wholesale low sulfur diesel prices in the Los Angeles spot market reached a peak of $1.00 per gallon on August 13 because of high crude oil prices, the need to rebuild inventories, and spillover effects from the refinery problems that primarily affected gasoline. As of August 26, spot diesel prices had fallen to $0.93 per gallon.

**Crude Oil Prices**

Several problems have contributed to keeping world crude oil prices high during August. Looting of facilities and sabotage of pipelines in Iraq have made it difficult to bring Iraqi crude oil to market. Ongoing unrest in Nigeria's oil producing regions has also helped sustain high crude oil prices, although Nigerian exports have not been reduced significantly. Questions have also emerged over whether Venezuelan production has recovered as much from the oil worker strikes earlier this year as officially reported.

U.S. crude oil inventories fell to a 27-year low of approximately 270 million barrels in March of 2003 (see Figure 6). After increasing to nearly 290 million barrels during June, inventories declined again in July. As of August 22, inventories were 279 million barrels, about 8 percent below the level of crude oil inventories in the U.S. one year ago.

**Figure 6**
**U.S. Crude Oil Inventories**
**January 3, 2003 through August 22, 2003**




As a result of low U.S. crude oil inventories and ongoing uncertainties in Iraq, Nigeria, and Venezuela, crude oil prices in August have remained relatively high, but with only a slight increase between July and August 2003. Alaska North Slope (ANS) crude oil that traded between $28-30 per barrel through July ranged between $29-31 per barrel in August. As of August 29, ANS crude oil cost $30.21 per barrel, compared to $28.99 on July 31. Crude oil prices have been an important contributing factor in the high gasoline and diesel prices experienced during 2003.

## California Fuel Costs and Apparent Margins

Tables 1 and 2 break out the price and cost components of a typical gallon of gasoline and diesel, respectively, averaged for August 2002, August 2003, and all years from 1997 to the present.[3] After netting out all taxes and crude oil costs, the bottom two rows of both tables display the implied refining and distribution margins.[4] "Refiner Costs and Profits" include all refiner production costs other than the cost of crude oil.[5] "Distribution Costs, Marketing Costs, and Profits" include costs associated with the distribution from terminals to stations and retailing of gasoline, including transportation and profits.[6]

**Table 1**
**California Gasoline Cost Analysis ($/gallon)**

| | Branded Gasoline | | | Unbranded Gasoline | | |
|---|---|---|---|---|---|---|
| | **Aug 2003** | **Aug 2002** | **1997 - Present** | **Aug 2003** | **Aug 2002** | **1997 - Present** |
| **Retail Prices** | 1.87 | 1.59 | 1.49 | 1.87 | 1.59 | 1.49 |
| **Federal Excise Tax** | 0.16 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| **State Excise Tax** | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| **State and Local Sales Tax** | 0.14 | 0.12 | 0.11 | 0.14 | 0.12 | 0.11 |
| **Crude Oil Cost** | 0.72 | 0.65 | 0.52 | 0.72 | 0.65 | 0.52 |
| **Refiner Costs and Profits** | **0.60** | **0.42** | **0.40** | **0.67** | **0.28** | **0.35** |
| **Distribution Costs, Marketing Costs, and Profits** | **0.07** | **0.04** | **0.10** | **-0.02** | **0.18** | **0.15** |

**Table 2**
**California Diesel Cost Analysis**

| | Branded Diesel | | | Unbranded Diesel | | |
|---|---|---|---|---|---|---|
| | **Aug 2003** | **Aug 2002** | **1997 - Present** | **Aug 2003** | **Aug 2002** | **1997 - Present** |
| **Retail Prices** | 1.73 | 1.48 | 1.45 | 1.73 | 1.48 | 1.45 |
| **Federal Excise Tax** | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 |
| **State Excise Tax** | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| **State and Local Sales Tax** | 0.11 | 0.10 | 0.09 | 0.11 | 0.10 | 0.09 |
| **Crude Oil Cost** | 0.72 | 0.65 | 0.52 | 0.72 | 0.65 | 0.52 |
| **Refinery Costs and Profits** | **0.35** | **0.23** | **0.26** | **0.34** | **0.22** | **0.26** |
| **Distribution Costs, Marketing Costs, and Profits** | **0.13** | **0.08** | **0.16** | **0.14** | **0.09** | **0.16** |

**Petroleum Industry Information - Response to Information Requests**

In our March 28 report to the Governor, the Energy Commission identified inadequacies in the scope of data currently collected from the industry and discussed the need to broaden our existing data-collection efforts. A more detailed and frequent level of data collection will improve the Energy Commission's ability to assess and respond to petroleum market issues.

To address the need for better data, the Energy Commission adopted an Order Instituting Rulemaking (Order No. 03-0219-08; Docket No. 03-SB1962-1) in February 2003. During the rulemaking process, proposed regulations will be subject to public review and comment. We expect the rulemaking to be complete by early 2004.

However, the Energy Commission remains concerned about the potential for supply problems during the remainder of 2003 because two different and non-fungible formulations of California gasoline are in the market place. Thus, as an interim measure, the Energy Commission and industry have been working cooperatively to develop data-reporting requirements that will be in effect until the formal rulemaking is complete. These reporting requirements will include new weekly, monthly, and annual data, including dealer tank wagon prices. The Energy Commission staff has developed interim weekly reporting forms and mailed them to industry with directions to begin reporting these data for the week ending September 4, 2003.

Note that at this time, Assembly Bill 1340 (Kehoe; amended August 19, 2003) Petroleum: Information Reports, restates existing Energy Commission authority under our PIIRA statutes. However, the bill expressly lists weekly reporting requirements and dealer tank wagon prices while we believe these are implicitly authorized by existing law.

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[1] Unless otherwise stated, the U.S. Energy Information Administration (EIA) is the source of all gasoline and diesel price data used in this report.

[2] Production and inventory data for California used in this report are from the Energy Commission Petroleum Industry Information Reporting Act (PIIRA) data. Data for the U.S. and Petroleum Administration for Defense District 5 (PADD 5) region are from the U.S. Energy Information Administration. PADD 5 consists of California, Arizona, Nevada, Oregon, Washington, Alaska and Hawaii.

[3] The following data sources were used in preparing the tables 1 and 2; diesel and gasoline branded and unbranded rack prices are provided by OPIS, all retail prices are provided by EIA, and ANS crude oil prices are provided by the Wall Street Journal. Data for the current month include prices available at the time of preparation. Current calculations differ from prior reports by including both ethanol- and MTBE-based wholesale gasoline prices. The federal ethanol tax credit has been included in branded margin calculations. The majority of branded retailers are now selling ethanol-based gasoline, while most unbranded retailers are still selling MTBE-based gasoline.

[4] Most branded retail gasoline stations are operated by franchise dealers who must purchase their gasoline from a major branded refiner at the dealer tank wagon (DTW) price. DTW prices are determined by the branded refiners and include all delivery costs. Because the "Distribution and Marketing Costs" in the table below are derived from terminal rack prices and not DTW prices, an actual dealer margin, inclusive of costs and profits, cannot be inferred. Since the Energy Commission does not collect DTW prices, we cannot confirm the extent to which DTW prices differ from OPIS branded rack prices.

[5] "Refiner Costs and Profits" includes all non-crude oil costs associated with refining and terminal operation, crude oil processing, oxygenate additives, product shipment and storage, oil spill fees, depreciation, purchases of gasoline to cover refinery shortages, brand advertising, and profits. The component is calculated as the difference between the Oil Price Information Service (OPIS) average rack price of gasoline and crude oil cost.

[6] "Distribution Costs, Marketing Costs, and Profits" include: franchise fees, and/or rents, wages, utilities, supplies, equipment maintenance, environmental fees, licenses, permitting fees, credit card fees, insurance, depreciation, advertising, transportation and profits.